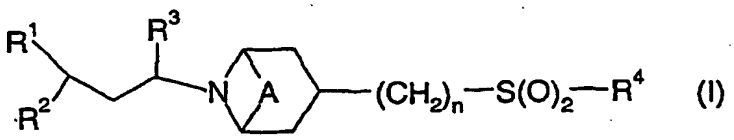
CLAIMS

1. A compound of formula (I):



wherein:

A is absent or is $(CH_2)_2$;

R^1 is $C(O)NR^{10}R^{11}$, $C(O)_2R^{12}$, $NR^{13}C(O)R^{14}$, $NR^{15}C(O)NR^{16}R^{17}$, $NR^{18}C(O)_2R^{19}$, heterocyclyl, aryl or heteroaryl;

R^{10}, R^{13}, R^{15}, R^{16} and R^{18} are hydrogen or C_{1-6} alkyl;

R^{11}, R^{12}, R^{14}, R^{17} and R^{19} are C_{1-8} alkyl (optionally substituted by halo, hydroxy, C_{1-6} alkoxy, C_{1-6} haloalkoxy, C_{3-6} cycloalkyl (optionally substituted by halo), C_{5-6} cycloalkenyl, $S(C_{1-4}$ alkyl), $S(O)(C_{1-4}$ alkyl), $S(O)_2(C_{1-4}$ alkyl), heteroaryl, aryl, heteroaryloxy or aryloxy), aryl, heteroaryl, C_{3-7} cycloalkyl (optionally substituted by halo or C_{1-4} alkyl), C_{4-7} cycloalkyl fused to a phenyl ring, C_{5-7} cycloalkenyl, or, heterocyclyl (itself optionally substituted by oxo, $C(O)(C_{1-6}$ alkyl), $S(O)_k(C_{1-6}$ alkyl), halo or C_{1-4} alkyl); or R^{11}, R^{12}, R^{14} and R^{17} can also be hydrogen;

or R^{10} and R^{11}, and/or R^{16} and R^{17} may join to form a 4-, 5- or 6-membered ring which optionally includes a nitrogen, oxygen or sulphur atom, said ring being optionally substituted by C_{1-6} alkyl, $S(O)_l(C_{1-6}$ alkyl) or $C(O)(C_{1-6}$ alkyl);

R^2 is phenyl, heteroaryl or C_{3-7} cycloalkyl;

R^3 is H or C_{1-4} alkyl;

R^4 is heterocyclyl;

n is 1, 2 or 3;

aryl, phenyl and heteroaryl moieties are independently optionally substituted by one or more of halo, cyano, nitro, hydroxy, $OC(O)NR^{20}R^{21}$, $NR^{22}R^{23}$, $NR^{24}C(O)R^{25}$, $NR^{26}C(O)NR^{27}R^{28}$, $S(O)_2NR^{29}R^{30}$, $NR^{31}S(O)_2R^{32}$, $C(O)NR^{33}R^{34}$, CO_2R^{36}, $NR^{37}CO_2R^{38}$, $S(O)_qR^{39}$, $OS(O)_2R^{49}$, C_{1-6} alkyl (optionally mono-substituted by $S(O)_2R^{50}$ or $C(O)NR^{51}R^{52}$), C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-10} cycloalkyl, C_{1-6} haloalkyl, C_{1-6} alkoxy(C_{1-6})alkyl, C_{1-6} alkoxy, C_{1-6} haloalkoxy, phenyl, phenyl(C_{1-4})alkyl, phenoxy, phenylthio, phenylS(O), phenyl$S(O)_2$, phenyl(C_{1-4})alkoxy, heteroaryl,

heteroaryl(C_{1-4})alkyl, heteroaryloxy or heteroaryl(C_{1-4})alkoxy; wherein any of the immediately foregoing phenyl and heteroaryl moieties are optionally substituted with halo, hydroxy, nitro, S(C_{1-4} alkyl), S(O)(C_{1-4} alkyl), $S(O)_2$(C_{1-4} alkyl), $S(O)_2NH_2$, $S(O)_2NH$(C_{1-4} alkyl), $S(O)_2N$(C_{1-4} alkyl)$_2$, cyano, C_{1-4} alkyl, C_{1-4} alkoxy, $C(O)NH_2$, C(O)NH(C_{1-4} alkyl), C(O)N(C_{1-4} alkyl)$_2$, CO_2H, CO_2(C_{1-4} alkyl), NHC(O)(C_{1-4} alkyl), $NHS(O)_2$(C_{1-4} alkyl), CF_3 or OCF_3;

unless otherwise stated heterocyclyl is optionally substituted by C_{1-6} alkyl [optionally substituted by phenyl {which itself optionally substituted by halo, C_{1-4} alkyl, C_{1-4} alkoxy, cyano, nitro, CF_3, OCF_3, (C_{1-4} alkyl)C(O)NH, $S(O)_2NH_2$, C_{1-4} alkylthio, S(O)(C_{1-4} alkyl) or $S(O)_2$(C_{1-4} alkyl)} or heteroaryl {which itself optionally substituted by halo, C_{1-4} alkyl, C_{1-4} alkoxy, cyano, nitro, CF_3, (C_{1-4} alkyl)C(O)NH, $S(O)_2NH_2$, C_{1-4} alkylthio, S(O)(C_{1-4} alkyl) or $S(O)_2$(C_{1-4} alkyl)}], phenyl {optionally substituted by halo, C_{1-4} alkyl, C_{1-4} alkoxy, cyano, nitro, CF_3, OCF_3, (C_{1-4} alkyl)C(O)NH, $S(O)_2NH_2$, C_{1-4} alkylthio, S(O)(C_{1-4} alkyl) or $S(O)_2$(C_{1-4} alkyl)}, heteroaryl {optionally substituted by halo, C_{1-4} alkyl, C_{1-4} alkoxy, cyano, nitro, CF_3, (C_{1-4} alkyl)C(O)NH, $S(O)_2NH_2$, C_{1-4} alkylthio, S(O)(C_{1-4} alkyl) or $S(O)_2$(C_{1-4} alkyl)}, $S(O)_2NR^{40}R^{41}$, $C(O)R^{42}$, $C(O)_2$(C_{1-6} alkyl) (such as tert-butoxycarbonyl), $C(O)_2$(phenyl(C_{1-2} alkyl)) (such as benzyloxycarbonyl), $C(O)NHR^{43}$, $S(O)_2R^{44}$, $NHS(O)_2NHR^{45}$, $NHC(O)R^{46}$, $NHC(O)NHR^{47}$ or $NHS(O)_2R^{48}$, provided none of these last four substituents is linked to a ring nitrogen;

k, l and q are, independently, 0, 1 or 2;

R^{20}, R^{22}, R^{24}, R^{26}, R^{27}, R^{29}, R^{31}, R^{33}, R^{37}, R^{40} and R^{51} are, independently, hydrogen or C_{1-6} alkyl;

R^{21}, R^{23}, R^{25}, R^{28}, R^{30}, R^{32}, R^{34}, R^{36}, R^{38}, R^{39}, R^{41}, R^{42}, R^{43}, R^{44}, R^{45}, R^{46}, R^{47}, R^{48}, R^{49}, R^{50} and R^{52} are, independently, C_{1-6} alkyl (optionally substituted by halo, hydroxy, C_{1-6} alkoxy, C_{1-6} haloalkoxy, C_{3-6} cycloalkyl, C_{5-6} cycloalkenyl, S(C_{1-4} alkyl), S(O)(C_{1-4} alkyl), $S(O)_2$(C_{1-4} alkyl), heteroaryl, phenyl, heteroaryloxy or phenyloxy), C_{3-7} cycloalkyl, phenyl or heteroaryl; wherein any of the immediately foregoing phenyl and heteroaryl moieties are optionally substituted with halo, hydroxy, nitro, S(C_{1-4} alkyl), S(O)(C_{1-4} alkyl), $S(O)_2$(C_{1-4} alkyl), $S(O)_2NH_2$, $S(O)_2NH$(C_{1-4} alkyl), $S(O)_2N$(C_{1-4} alkyl)$_2$, cyano, C_{1-4} alkyl, C_{1-4} alkoxy, $C(O)NH_2$, C(O)NH(C_{1-4} alkyl), C(O)N(C_{1-4} alkyl)$_2$, CO_2H, CO_2(C_{1-4} alkyl), NHC(O)(C_{1-4} alkyl), $NHS(O)_2$(C_{1-4} alkyl), C(O)(C_{1-4} alkyl), CF_3 or OCF_3;

R^{21}, R^{23}, R^{25}, R^{28}, R^{30}, R^{34}, R^{35}, R^{36}, R^{41}, R^{42}, R^{43}, R^{45}, R^{46}, R^{47} and R^{52} may additionally be hydrogen;

or a pharmaceutically acceptable salt thereof or a solvate thereof.

2. A compound as claimed in claim 1 wherein R^1 is $NR^{13}C(O)R^{14}$, wherein R^{13} and R^{14} are as defined in claim 1.

3. A compound as claimed in claim 1 or 2 wherein R^1 is optionally substituted aryl or optionally substituted heteroaryl, wherein the optional substituents are as recited in claim 1.

4 A compound as claimed in claim 1, 2 or 3 wherein R^1 is optionally substituted heterocyclyl.

5. A compound as claimed in any one of the preceding claims wherein R^2 is phenyl optionally substituted by halo or CF_3.

6. A compound as claimed in any one of the preceding claims wherein R^3 is hydrogen.

7. A compound as claimed in any one of the preceding claims wherein R^4 is heterocyclyl optionally substituted by oxo, halogen, cyano, hydroxy, C_{1-6} alkyl (itself optionally substituted by halogen, hydroxy, cyano or C_{1-4} alkoxy), C_{2-4} alkenyl, $CO_2(C_{1-4}$ alkyl), $S(O)_2(C_{1-4}$ alkyl), CH(O), $S(O)_2(C_{1-4}$ haloalkyl), $C(O)(C_{1-4}$ alkyl), $C(O)(C_{3-6}$ cycloalkyl), $N(C_{1-4}$ alkyl$)_2$, $C(O)NH_2$, $C(O)N(C_{1-4}$ alkyl$)_2$ or $NHC(O)(C_{1-4}$ alkyl).

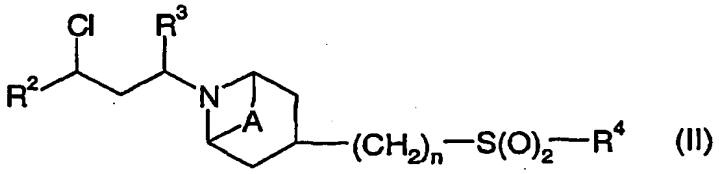
8. A compound as claimed in any one of the preceding claims wherein heterocyclyl is piperidinyl, homopiperazinyl, thiomorpholinyl, pyrrolidinyl, piperazinyl, 1,2,3,6-tetrahydropyridinyl, morpholinyl, 2,5-dihydropyrrolyl, azetidinyl, 1,4-oxepanyl, 3-azabicyclo[3.2.1]octan-3-yl, 8-azaspiro[4.5]decanyl or 3-azabicyclo[3.1.0]hex-3-yl.

9. A compound as claimed in any one of the preceding claims wherein A is absent.

10. A compound as claimed in any one of the preceding claims wherein n is 2.

11. A process for preparing a compound as claimed in claim 1, the process comprising:

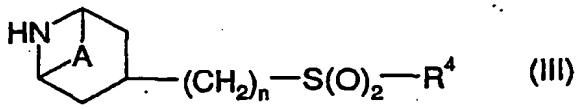
i. when R^1 is an N-linked optionally substituted heterocycle, reacting a compound of formula (II):



(II)

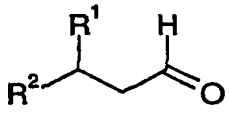
wherein R^2, R^3, R^4, n, A and X are as defined in claim 1, with a compound R^1H (wherein the H is on a heterocycle ring nitrogen atom) wherein R^1 is as defined in claim 1, in the presence of a suitable base and in a suitable solvent;

ii. when R^3 is hydrogen, coupling a compound of formula (III):



(III)

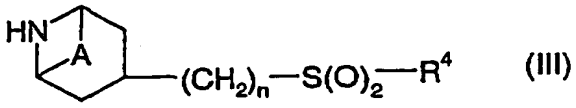
wherein R^4, n, A and X are as defined in claim 1, with a compound of formula (IV):



(IV)

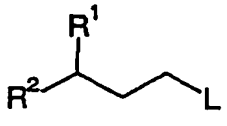
wherein R^1 and R^2 are as defined in claim 1, in the presence of $NaBH(OAc)_3$ (wherein Ac is $C(O)CH_3$) in a suitable solvent at room temperature; or,

iii. when R^3 is hydrogen, coupling a compound of formula (III):



(III)

wherein R^4, n, A and X are as defined in claim 1, with a compound of formula (V):



(V)

wherein R^1 and R^2 are as defined in claim 1 and L is an activated leaving group, in the presence of a base, in a suitable solvent at a temperature from 60°C up to the boiling point of the solvent.

12. A pharmaceutical composition which comprises a compound as claimed in claim 1, or a pharmaceutically acceptable salt thereof or solvate thereof, and a pharmaceutically acceptable adjuvant, diluent or carrier.

13. A compound as claimed in claim 1, or a pharmaceutically acceptable salt thereof or solvate thereof, for use as a medicament.

14. A compound as claimed in claim 1, or a pharmaceutically acceptable salt thereof or solvate thereof, in the manufacture of a medicament for use in therapy.

15. A method of treating a CCR5 mediated disease state comprising administering to a patient in need of such treatment an effective amount of a compound as claimed in claim 1, or a pharmaceutically acceptable salt thereof or solvate thereof.